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REMARKS

Reconsideration of the above identified application is respectfully requested.

The specification has been amended at para. 64 to conform the reference to the gill holes 44, not 54, with paras. 47 and 59, for example.

Claim 1 has been amended to insert the missing word "of" as similarly found in claim 20.

Applicants note the substantial breadth of interpretation of Applicants' claims being proffered by the examiner, which correspondingly enlarges claim scope in later infringement analysis of the file wrapper. However, the examiner has failed to afford due weight to specific features and cooperation of features which distinguish over the applied art.

Applicants traverse the rejection of claims 1 and 11 under Section 102(b) over Manning ('317) et al.

The examiner's contention that "the gill holes inherently being sized to counterbalance added discharge of the cooling air through the auxiliary holes for maintaining the reference flowrate (col. 6, line 63 - col. 7, line 4)" is incorrect, and not supported by the reference.

The applied Manning reference, like the Applicants' specification, explains the sophisticated design of modern gas turbine engine nozzles, and similarly recognizes problems uncovered in long-life nozzles due to actual experience over long life.

However, unlike Applicants' specification, the specific CF34 model nozzle has a different design than the nozzle disclosed in Applicants' specification, and has different problems being solved by different solutions.

It is noted that the examiner is rejecting only the two independent claims 1 and 11, but has failed to afford due weight to the express features thereof which well distinguish over the applied reference.

Claims 1 & 11 both recite two rows of gill holes 44 spaced

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aft from the showerhead holes along the suction sides of the vanes; a row of auxiliary holes 56 spaced aft from the showerhead holes 42 through the pressure side 22 in each vane; and the gill holes 44 being sized to counterbalance added discharge of the cooling air through the auxiliary holes 56 for maintaining the reference flowrate.

The auxiliary holes 56 have been added to the vane and thus discharge additional cooling air.

The gill holes 44 are sized to counterbalance the added discharge from the auxiliary holes 56, and therefore are relatively small so the net flow from these two types of holes in the pattern of holes in the vane maintains the reference flowrate.

The examiner is using flank holes 13 of Manning for the auxiliary holes in these claims.

The examiner is also using the gill holes 1,2 of Manning for the gill holes in these claims.

The examiner then merely contends that "the gill holes [are] inherently sized to counterbalance added discharge...", yet there is no evidence in Manning to support this contention.

The examiner's reference to col. 6/7 of Manning addresses the modification of the showerhead holes 4-7, and their reduced diameter and steeper slope.

The smaller showerhead holes then allow air to be diverted to the other film holes, which are sized so the total amount of air is substantially the same as the previous design.

Yet, nowhere in Manning is any teaching relevant to the specific sizing in Applicants' claims 1 & 11, and, to the contrary, Manning teaches otherwise.

Manning contains a table at col. 6 which identifies the past and upgrade designs, and the changes therebetween.

Note that the flank holes 13 have been added to the upgrade design; and therefore will channel a corresponding amount of additional air.

Where does that additional air come from if the total flow will remain the same?

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Manning clearly discloses that the showerhead holes 4-7 are made smaller in size from 20 mil diameter to 18 mil diameter, and therefore will channel less air, with the air instead being diverted to the other holes, such as flank holes 13.

What about the gill holes recited in claims 1 & 11, and the gill holes 1,2 being used by the examiner in Manning?

The table in Manning clearly indicates that the gill holes 1 remain the same diameter, 20 mils in the past design and 20 mils in the upgrade, and are thus not smaller to counterbalance any flow such as that added flow from flank holes 13.

The table also indicates that the gill holes 2 remain the same 23 mil diameter in the past and upgrade designs, and thus are not smaller to counterbalance any flow such as that added flow from the flank holes 13.

Note further that the number of gill holes 1 in the table has also increased from 7 to 10, which requires added flow, not less flow. And, the number of gill holes 2 remains the same at 14.

Accordingly, the examiner's mere contention of "inherent" sizing in Manning matching that recited in claims 1 & 11 is not inherent in Manning, and not supported by any evidence therein, and indeed the sizing of the gill holes 1,2 relative to the flank holes 13 in Manning is quite opposite than that recited in Applicants' claims 1 & 11 since those gill holes 1,2 would appear to add flow, and not reduce or counterbalance the additional flow from the added flank holes 13.

Furthermore, claims 1 & 11 also recite that the vane has a pattern of outlet holes which collectively discharge cooling air at a reference flowrate.

Within that pattern of outlet holes, the gill holes 44 are expressly sized in claims 1 & 11 to counterbalance the added discharge from the auxiliary holes 56 to maintain that reference flowrate.

The table at col. 6 of Manning lists all 13 rows of outlet holes in the upgrade vane, and it is quite clear from Manning

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that the additional flow from the flank holes 13 is counterbalanced by the smaller showerhead holes 4-7, and not by the gill holes 1,2 being used by the examiner, nor, apparently, from the other gill holes 3,12, with gill holes 12 being added between the two designs.

Accordingly, withdrawal of the rejection of claims 1 & 11 under Section 102(b) over Manning ('317) et al is warranted and is requested.

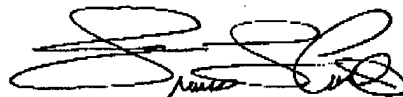
Applicants note the allowability of objected-to claims 2-10 and 12-20, but the rewriting thereof is not warranted.

In accordance with the duty imposed by 37 CFR 1.104 and MPEP sections 707, 707.05, 707.07, and 707.07(g), the examiner is requested to reconsider all the art of record, including the additional references not applied, to ensure full compliance with the required thoroughness of examination.

In re Portola Packaging, Inc., 42 USPQ2d 1295 (Fed. Cir. 1997) emphasizes the importance of complying with this duty to ensure that all references of record have been fully considered by the examiner in the various combinations thereof. And, the Board of Appeals has further elaborated on the importance of this examiner duty in Ex parte Schricker, 56 USPQ2d 1723 (B.P.A.I. 2000).

In view of the above remarks, allowance of all claims 1-20 over the art of record is warranted and is requested.

Respectfully submitted,



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